# Information and Communication Technology 2019 v1.0

## Unit 3 assessment instrument

### Project – HTML, CSS and JavaScript chance game

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| **Purpose** |
| This technique assesses a response to a single task, situation and/or scenario in a module of work that provides students with authentic and/or real-world opportunities to demonstrate their learning. The student response will consist of a collection of at least two assessable components, demonstrated in different circumstances, places and times, and may be presented to different audiences, and through differing modes. |
| **Dimensions to be assessed** |
| This assessment technique is to be used to determine student achievement in objectives from all of the following dimensions:   * Knowing and understanding * Analysing and applying * Producing and evaluating.   All objectives from each dimension must be assessed. |

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| **Subject** | Information and Communication Technology |
| **Technique** | Project – HTML, CSS and JavaScript chance game |
| **Unit number** | 3 |
| **Module number and name** | Module 5: Web Development 2 |
| **Conditions** | |
| **Written Component** | 500-900 words |
| **Product Component** | Entire web root source files (including all HTML, CSS, JS and image files, as well as any other media included) |
| **Due Date** | As per college assessment calendar |
| **Individual / group** | Individual |
| **Resources available** | Laptop / internet access |
| **Context** | |
| For this task you are a client-side web developer tasked with developing a local, browser-based JavaScript powered “chance” or “simulation” game for students studying stats and probability at an upper-primary school / middle-school level. | |
| **Task** | |
| Plan, produce and evaluate a browser-based JavaScript powered “chance” or “simulation” game that interacts with DOM (Document Object Model) elements, such as HTML structure or CSS styling. Your solution must pass W3C mark-up validation and provide a responsive or adaptive accessible layout for devices of all view-port sizes. Your solution may be viewed on multiple browser platforms, by either keyboard, mouse or touchscreen.  The solution you produce needs to incorporate the following mechanics:   1. a random element of chance (using the JS Math object) and interaction with HTML form objects 2. suitably presented document structure, possibly incorporating HTML semantic tags 3. manage aesthetics and a responsive layout using CSS grid or other technique(s) 4. a “simulation” or “game” that could be used to complement stats and probability subject content to an upper-primary school / middle-school level   Note: The focus of the subject matter for this unit is *elective context 9: Website production* (ICT Syllabus page 30), and that nowhere is *elective context 5: Digital imaging and modelling* (ICT syllabus page 23) covered throughout this course. As such, students are welcome to utilise, import or adapt existing royalty free web images for their web pages (or other media content).  The task includes two components. Upon successful completion of these components, you should have evidence for each of the syllabus descriptors:   * Component 1: Written   Write a document containing:   * + your background research, rationale, solution specifications and solution design(s)   + an evaluation of the final product and project lifecycle (following component 2 below), which includes supporting recommendations. * Component 2: Product   + Generate a browser-based JavaScript powered “chance” or “simulation” game that interacts with DOM (Document Object Model) elements, such as HTML structure or CSS styling. | |
| **To complete this task, you must:** | |
| * identify and explain the software and hardware requirements relevant to this task (K&U1) * identify and explain how this solution may be received in society (K&U2) * analyse the requirements, risks and problems with developing, deploying or maintaining this solution, and identify potential solutions or alternatives (A&A1) * synthesise concepts and ideas from your analysis to plan your solution, including required computational logic, and how this relates to interactive page elements (P&E1) * produce a game that systematically addresses the task requirements (P&E2) * evaluate the project outcomes and lifecycle, and make recommendations or offer advice for future directions where feasible (P&E3) * in both written and product components:   + apply software and hardware concepts, ideas and skills to complete all set tasks listed (A&A3)   + communicate ICT information to an audience using a considered selection of visual representations and language conventions and features (A&A2) | |
| **Checkpoints** | |
| □ Term [X] Week [X]: Discuss ideas with teacher | |
| □ Term [X] Week [X]: Complete draft submission | |
| □ Term [X] Week [X]: Final submission | |
| **Authentication strategies** Your teacher will use ways to check that the work you are assessed on is your own work. | |
| * Discuss with your teacher or provide documentation of your progress. | |
| * Take part in interviews or consultations with your teacher as you develop your response. | |
| * Submit drafts and respond to teacher feedback. | |

Instrument-specific standards matrix

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|  | **Standard A** | **Standard B** | **Standard C** | **Standard D** | **Standard E** |
| **Knowing and understanding** | The student work has the following characteristics: | | | | |
| * **accurate** identification and **comprehensive** explanation of software and hardware requirements related to ICT problems * **accurate** identification and **comprehensive** explanation of the use of ICT in society | * **accurate** identification and **detailed** explanation of software and hardware requirements related to ICT problems * **accurate** identification and **detailed** explanation of the use of ICT in society | * identification and explanation of software and hardware requirements related to ICT problems * identification and explanation of the use of ICT in society | * **partial** identification and **simple** description of software and hardware requirements related to ICT problems * **partial** identification and **simple** description of the use of ICT in society | * **minimal** identification and **superficial** description of software and hardware requirements * **minimal** identification and **superficial** description of the use of ICT in society |
| **Analysing and applying** | The student work has the following characteristics: | | | | |
| * **logical** analysis of ICT problems to identify solutions * **coherent** communication of ICT information to an audience using **a considered selection of** visual representations and language conventions and features * **proficient** application of software and hardware concepts, ideas and skills to complete tasks in a range of ICT contexts | * **considered** analysis of ICT problems to identify solutions * **clear** communication of ICT information to an audience using **relevant** visual representations and language conventions and features * **competent** application of software and hardware concepts, ideas and skills to complete tasks in a range of ICT contexts | * analysis of ICT problems to identify solutions * communication of ICT information to an audience using visual representations and language conventions and features * application of software and hardware concepts, ideas and skills to complete tasks in ICT contexts | * **description** of aspects of ICT problems * **vague** communication of ICT information to an audience using visual representations and language conventions and features inconsistently * **basic** application of software and hardware concepts, ideas and skills to complete tasks in ICT contexts | * **partial description** of aspects of ICT problems * **unclear** statements of ICT information * **use** of software and hardware concepts, ideas and skills in ICT contexts |
| **Producing and evaluating** | The student work has the following characteristics: | | | | |
| * **logical** synthesis of ICT concepts and ideas to **proficiently** plan solutions to given ICT problems * production of solutions that **systematically** address ICT problems * **reasoned** evaluation of problem-solving processes and solutions, and **logical** recommendations made. | * **effective** synthesis of ICT concepts and ideas to **successfully** plan solutions to given ICT problems * production of solutions that **effectively** address ICT problems * **considered** evaluation of problem-solving processes and solutions, and **plausible** recommendations made. | * synthesis of ICT concepts and ideas to plan solutions to given ICT problems * production of solutions that address ICT problems * evaluation of problem-solving processes and solutions, and recommendations made. | * listing of related ICT concepts and ideas to **partially** plan solutions to given ICT problems * production of responses that engage with ICT problems * description of problem-solving processes and solutions, and **basic** recommendations made. | * collection of information related to planning solutions to given ICT problems * production of partial responses that engage with aspects of ICT problems * fragmented description of problem-solving processes and solutions, and statements of opinion made. |

### Comments: